

MEMORANDUM FOR: Deputy Director for Management and Services

VIA: Deputy Director for Operations
Director, Office of Joint Computer Support
Chairman, Information Processing Board

SUBJECT: Replacement of Computer Central Processing Units

1. Paragraph 10 requests your approval to replace two 370/155 computer Central Processing Units (CPU's) in Information Services Division/DDO with two 370/158 CPU's.

2. The DDO has nearly finished loading to computer storage the machine language representing the Main [REDACTED] We expect to search this large data base (over eight million records) by computer programs late this summer, thus replacing reliance on the manual 3x5 card file. As confidence grows in the machine index, the manual index will be phased out. A large part of the confidence factor for the machine system will be based on it being reliably available for use sixteen and one-half hours each day.

3. Thirty-five remote terminals (Visual Display Units - VDU's) will be attached to this system. An average of thirty will be in use throughout the day, and approximately twenty on the evening shift.

4. In addition to the Main Index System [REDACTED], the DDO is employing three other on-line systems during the normal working day, with a current compliment of twenty-one remote terminals.

5. The programs to run the four on-line systems are too large to fit in the memory of either one of the present CPU's, and must therefore be split between the two. If either of the CPU's is down, some on-line systems must stop and the others operate in a significantly degraded mode.

6. It is therefore necessary to replace the smaller of two CPU's with a 370/158, increasing the main memory size from one million bytes of storage to two million bytes. This will enable all on-line programs to run in

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one CPU, and provide better utilization of that machine. The second CPU will be used for batch jobs, program development and partial back-up. This change of CPU types (from a 155 to a 158) will also permit study and experimentation with the new Virtual System programs recently released by IBM.

7. The CPU rental would initially increase by a gross of \$8,235 per month. However, two separate disk storage controllers could be released, resulting in a net increase of \$6,021. This change would take place in January 1974.

8. If this CPU replacement is approved, we plan to exchange the present 370/155 1.5 memory, for a 370/158 1.5 memory in April 1974. This would result in a net saving of \$4,309 per month. Therefore the total cost of converting to 370/158's and increasing the total memory by 1 million bytes would be a net of \$1,712 per month. This configuration was suggested by the Office of Joint Computer Support and may be changed, depending on their future plans. However, it should be scheduled at this time.

9. Cost figures are detailed in attachments.

10. Your approval is requested for DDO/ISD to replace the 370/155 Central Processing Unit (with one million bytes of main storage) by a 370/158 Central Processing Unit (with two million bytes of main storage), at a net cost of \$6,021 per month and further to replace the 370/155 Central Processing Unit (with 1.5 million bytes of main storage) by a 370/158 Central Processing Unit (with 1.5 million bytes of main storage) at a net decrease of \$4,309 per month.

Chief, Information Services Division

Attachments (4): a/s

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CONCUR:

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[Redacted Signature]

22 JUN 1973

1007 Deputy Director for Operations

Date

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[Redacted Signature]

Director, Office of Joint Computer Support

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Date

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Chairman, Information Processing Board

7/5/73

Date

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APPROVED:

[Redacted Signature]

Deputy Director for Management and Services

5 July 1973

Date

~~ADMINISTRATIVE - INTERNAL USE ONLY~~

Attachment 1

370/155 CostsAdditional Features Equivalent to 370/158

Block Mux 3rd	1433	\$405.
Block Mux 4th	1434	378.
Extended Precision Floating Point	3700	189.
3215 Adapter	7855	216.
3215 Printer		200.
		<u>\$1,388.</u>

<u>155 Model</u>	<u>Million Bytes</u>	<u>CPU + Memory</u>	<u>Additional Features</u>	<u>Total</u>	<u>Storage Controllers</u>	<u>Total Cost</u>
J	1.0	\$32,570.	\$1,388.	\$33,958.	5,414.	\$39,372.
JI	1.5	40,300.	1,388.	41,688.	5,414.	47,102.
K	2.0	46,840.	1,388.	48,228.	5,414.	53,642.

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Attachment 2

3830 Storage Controller Costs for 370/155
Two Per System

3830-2 Storage Control	\$2,025.
Two Channel Switch 8170	200.
Control Store Expansion 2150	470.
3333 String Switch Attach. 8152	12.
	<u>\$2,707.</u>

Attachment 3

370/158 Costs

Additional Features Equivalent to 370/155

Block Mux 3rd	1433	\$405.
Block Mux 4th	1434	378.
3213 Printer Attch	7840	100.
3213 Printer		210.
Extended Precision Floating Point	3700	N/C
		\$1,093.

Additional Features Available Only on 158

Integrated Storage Controller (ISC)	4650	\$2,200.
Two Channel Switch for ISC	7905	400.
Control Storage Expansion	2150	600.
		<u>\$3,200.</u>

<u>158 Model</u>	<u>Million Bytes</u>	<u>CPU + Memory</u>	<u>Additional Features</u>	<u>Total</u>	<u>Storage Control (ISC)</u>	<u>Total Cost</u>
J	1.0	\$35,900.	\$1,093.	\$36,993.	\$3,200.	\$40,193.
JI	1.5	38,500.	1,093.	39,593.	3,200.	42,793.
K	2.0	41,100.	1,093.	42,193.	3,200.	45,393.

Attachment 4

Cost Recap

2.0	158 basic	\$42,193.	w/ISC	\$45,393.
1.0	155 basic	33,958.	w/3830's	39,372.
		(<u>\$8,235.</u>)		+ (<u>\$6,021.</u>)

1.5	155 basic	\$41,688.	w/ISC	\$47,102.
1.5	158 basic	39,593.	w/3830's	42,793.
		<u>\$2,095.</u>		- <u>\$4,309.</u>

(\$1,712.) N.T